

REMARKS

With the cancellation of claim 38, claims 19, 21-24, 27-36, 39, and 40 remain pending in the above-referenced application and are submitted for the Examiner's reconsideration.

Applicants' argument shall focus on Kawasaki. Since Kawasaki does not teach what the Examiner believes it teaches, the combination of Kawasaki with the other relied upon references fails to establish the non-obviousness of the claimed invention.

Kawasaki is alleged to teach using C_4F_8 as an etching medium and to set 2 MHz as the frequency of the substrate voltage as recited in independent Claims 19, 24, 29 and 34.

However, the teaching of Kawasaki is for the following reasons technically not comparable to the method of the present application such that one skilled in the art would not draw on the teaching according to Kawasaki and in particular would not combine it with other cited references: The intention of the method according to Kawasaki is to use an etching gas (chlorine or SF_6) and a passivating gas (CCl_3F and others) as a so-called "critical gas mixture" (see Abstract). Whether out of the plasma this gas mixture results in an etching or a layer deposition depends, according to Kawasaki, on how high the bias voltage at the substrate electrode is selected (column 2, lines 11-20). The process is fundamentally chlorine-based and based on an ECR plasma source (see column 3, lines 27-29), that is, a microwave source, which can only operate at very low process pressures $< 1 \mu\text{bar}$ by using the electron cyclotron resonance effect in a strong outer magnetic field (approx. 800 mTesla).

The teaching according to Kawasaki now provides for switching this bias voltage at the substrate electrode at a low rate of repetition between a high and a low value so as to alternate phases of layer deposition and phases of etching. Thus, a "critical" gas mixture is provided and the further method is controlled via the bias voltage. This is the technical motivation of this teaching: Change the bias voltage periodically and thereby run the process alternating between etching and passivating without changing the gas mixture for this purpose (see column 1, line 66 through column 2, line 2).

By contrast, the claimed method provides for adding to the process gas at least intermittently a fluorine-delivering etching gas or easily ionizable gas (see independent Claims 19, 24, 29 and 34), i.e. the gas mixture is changed in a controlled manner. Hence the procedure according to the claimed invention is precisely the opposite of that of "Kawasaki". Thus, one skilled in the art is not able to combine the teaching according to "Kawasaki" technically with the other cited references so as to arrive at the method according to our claims.

Accordingly, since none of the other references overcomes the deficiencies as noted above in Kawasaki, withdrawal of all the prior art rejections is respectfully requested in view of the above remarks.

In light of the foregoing, Applicants respectfully submit that all of the pending claims are in condition for allowance. Prompt reconsideration and allowance of the present application are therefore earnestly solicited.

Respectfully submitted,

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